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| 08/837,739 | 04/22/97 | AROMIN | V 81042 |

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EXAMINER

HUYNH, K

ART UNIT

PAPER NUMBER

2104

DATE MAILED: 02/10/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/837,739

Applicant(s)
Aromin

Examiner
Kim Huynh

Group Art Unit
2104



☒ Responsive to communication(s) filed on Apr 22, 1997

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-11 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-11 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Apr 22, 1997 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because Figures 5 and 6 do not include the following reference sign(s) mentioned in the description:

a. Figure 5 does not include the following reference sign(s):

- i. Feedback resistor (39), page 9, line 3;
- ii. Fault detection circuit (17), disclosed in the second from the last line of page 7;
- iii. Circuit breaker and switches (13, SW1, and SW2), page 8, line 7;
- iv. Fault detection circuit (17), disclosed in the second to the last line of page 7;
- v. Metal oxide varistor (45), page 10, line 10;
- vi. The manually operated button (50), the third from the last line of page 10.

b. Figure 6 does not include the reference number 79 (neutral contact prongs or blades) as disclosed in page 12, line 11.

Correction is required.

2. The drawings are objected to because Figure 6 should include reference numbers 67 (top portion) and 69 (bottom portions) as disclosed in page 11, line 13 of the specification for clarity.

Correction is required.

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Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

4. Claims 1 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by McDonald et al. (US Pat. No. 5,661,623). McDonald et al. disclose an appliance leakage current interrupter (Figure 7) comprising a circuit breaker having a pair of switches (44,46), a relay circuit (180), a fault detection circuit (212, 52, and 54) comprising an integrated chip (212) and a transformer (52, 54), a single sided circuit board (Figure 5, 42) having pattern of conductive path and said integrated circuit chip is surface mounted on the second side of the circuit board (column 10, lines 28-31).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 2-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonald et al.

a. Regarding claim 2, McDonald et al. further disclose said transformer including a common core (220, 222), a primary winding, and a secondary winding (224, 226). However, McDonald et al. does not specifically disclose the transformer having three laminated layers and the primary winding being wrapped twice around the core of the transformer. It would have been obvious to one having ordinary skill in the art to modify the primary winding of the transformer to minimize the dimensions of the appliance leakage current interrupter (abstract, last 2 lines) which is not a matter of ordinary invention (see In re Yount, 80 USPQ 141).

b. Regarding claims 3 and 4, McDonald et al. further disclose the appliance leakage current interrupter (Figures 1-5) comprising generally rectangular-shaped housing (10) being mounted on an end of an electrical cord (40); a prong assembly (Figure 2) comprising a pair of contact prongs (22,24) which extend through said housing and a pair of conductive bracket arms (Figure 5, 44 and 46)).

c. Regarding claims 5, McDonald et al. does not specifically disclose the pair of prongs extended out from said housing at an angle of 180 degrees. It would have been obvious to one having ordinary skill in the art to modify the prongs to extend at an angle of 180 degrees to provide an appliance leakage current interrupter which is relatively small and compact, allowing it to be incorporated into an AC line cord plug (column 2, lines 46-49).

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d. Regarding claims 6, McDonald et al. further disclose the pair of prongs extended out from said housing at an angle of 90 degrees from the longitudinal axis of the cord (Figure 2).

e. Regarding claims 7-10, McDonald et al. further disclose (Figure 7) a power supply circuit (214, 202) for providing alternating current to the integrated circuit chip comprising a metal oxide varistor (202), a test circuit (34, 258); and said relay circuit comprises a solenoid (180) and a rectifier (236), and a resetting assembly (36) for resetting said appliance leakage current interrupter after detection of a ground fault. This is further demonstrated by applicant disclosure on Figure 2.

7. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer et al. (US Pat. No. 5,177,657) in view of Werther. Baer et al. disclose an appliance leakage current interrupter (Figure 1) comprising a circuit breaker having a pair of switches (SW1 and SW2), a relay circuit (14), a fault detection circuit (16) comprising an integrated chip (26) and a transformer (38, 42). Baer et al. does not specifically a single sided circuit board having pattern of conductive path and said integrated circuit chip is surface mounted on the second side.

Werther discloses a multi-level electrical assembly (Figure 1) for coupling additional circuit elements to a set of conductive pathways to increase the circuit board density. It would have been obvious to one having ordinary skill in the art utilize the technology taught by Werther to modify the appliance leakage current interrupter taught by Baer et al. to produce an appliance leakage current interrupter having a single sided circuit board having pattern of conductive path and said integrated circuit chip is surface mounted on the second side in order to increase the

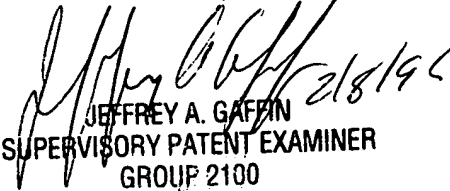
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board density and produce a relatively small and compact appliance leakage current interrupter (Baer at el., column 1, lines 57-59).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McDonald (US Pat. No. 5,270,896 and 5,363,269), MacKenzie et al. (US Pat. No. 5,459,630), Gernhardt et al. (US Pat. No. 5,680,287), Rao et al. (US Pat. No. 5,148,344), Grove (US Pat. No. 5,341,266), Zhou (US Pat. No. 5,644,464) and Gershen et al. (US Pat. No. 5,558,730) disclose various ground fault circuit interrupters.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (703) 308-1678. If attempts to reach the above noted examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached at (703) 308-3301.


JEFFREY A. GAFFIN
SUPERVISORY PATENT EXAMINER
GROUP 2100

KH

February 5, 1998